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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,465	05/03/2007	Malcolm R. Mackley	DUMMETT-051XX	4926
28452 7590 11/23/2011 BOURQUE & ASSOCIATES INTELLECTUAL PROPERTY ATTORNEYS, P.A. 835 HANOVER STREET SUITE 301 MANCHESTER, NH 03104			EXAMINER WOLFSCHLAGER, JEFFREY MICHAEL	
			ART UNIT 1742	PAPER NUMBER
			MAIL DATE 11/23/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/582,465

Applicant(s)

MACKLEY ET AL.

Examiner

JEFF WOLLSCHLAGER

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 15-45 is/are pending in the application.
- 5a) Of the above claim(s) 15-28 and 33-38 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 29-32 and 39-45 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-CB00)
Paper No(s) Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s) Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 7, 2011 has been entered.

Response to Amendment

Applicant's amendment to the claims filed October 7, 2011 has been entered. Claims 29 and 30 are currently amended. Claims 39-45 are new. Claims 15-28 and 33-38 remain withdrawn from further consideration. Claims 1-14 have been canceled. Claims 29-32 and 39-45 are under examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 43 and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 43 recites a maximum bore size of "less than 500 microns". It is unclear where support for such an amendment is found in the original disclosure. Claim 45

recites the bore size is below 1 micron. It is unclear where support for such an amendment is found in the disclosure. Paragraph [0012] of the published application (US 2009/0011182) recites that "it is envisaged that a further processing stage could produce capillaries having a bore of below 1 micron.". However, it is not clear to the examiner that the steps of this "further processing stage" are disclosed in the specification or that applicant was in possession of the claimed invention. The examiner notes that claim 30 provides a drawing step, but it does not appear that it is taught or implied in the specification that this drawing step is the step being referred to in paragraph [0012].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29 and 42 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ho et al. (US 5,658,644).

Regarding claims 29 and 42, Ho et al. teach the claimed process of producing a light weight board having a plurality of longitudinally extending passageways (figure 1) comprising extruding the material through a modified die head 3 comprising a plurality of mandrels/needles (16) each having a longitudinal bore (17) to provide air flow through the passageway during extrusion (col. 3, lines 16-35). It is noted that the recited diameter of the needle is less than 2 mm. The recitation does not require the diameter to be an inner or outer diameter and in embodiments where the shape of the needle is not circular it does not specify whether the width or height dimension or either is necessarily the diameter. As such, in one interpretation of the

claim it is submitted that the disclosure at col. 3, lines 30-52 in view of the thickness of Example 1 anticipates the claim. Alternatively, the disclosure at col. 3, lines 30-52 suggests a range that overlaps with the claimed range in view of the thickness of Example 1. It is noted that applicant's disclosure does not exclude needles having shapes other than a circular shape (paragraph [0019] of the published application) and that the mandrels of Ho et al. are properly understood to form needles within the scope of the term set forth in the disclosure and the claims. It is noted that claims 43-45 are not rejected over Ho et al.

Claim 29, 30 and 41-44 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wooley (US 3,778,495).

Regarding claims 29 and 30, Wooley teach a process for producing a polymeric composition comprising a plurality of channels (16) (Figure 3) comprising extruding the resin through an extruder having a hopper (23) and through a die containing a mandrel with a plurality of mandrel tubes (30) which form the channels (16) by permitting air or other gaseous material to be supplied (Figure 5; col. 7, lines 26-col. 8, line 15). The extrudate is then drawn by puller (35). In one interpretation of the claim it is submitted that the disclosure at col. 7, lines 60-64 anticipates the requirement of allowing air to be drawn into the needles and thus the claim is anticipated. Alternatively, the disclosure at col. 7, lines 60-64 suggests and implies one having ordinary skill would have readily determined the pressure of the air required to achieve and maintain the desired hollow configuration through routine experimentation and suggests a substantially overlapping range with the claimed range (e.g. the range disclosed by less than 1-2 psig includes atmospheric pressure). Further, in view of the dimensions employed by Wooley to produce the small article having the small capillary openings, it is submitted that the dimensions of the tubes (30) are either necessarily or implicitly smaller than the claimed value of

2 mm (Abstract; col. 2, lines 61-col. 3, line 32; col. 4, lines 40-47; col. 5, lines 20-30; col. 6, lines 26-75). It is noted that claim 45, which depends from claim 30, is not rejected over Wooley.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (US 5,658,644), as applied to claims 29 and 42 above, and further in view of Herrington (US 7,550,102).

As to claim 30, Ho et al. teach the method of claim 29 as set forth above and that the produce is finally shaped (col. 4, lines 1-5). Ho et al. does not teach drawing down the extrudate with draw down equipment. However, Herrington discloses that in the art of making tubular materials draw down equipment is known to pull the extrudate away from the die including with a plurality of rollers (Figure 6; col. 15, lines 11-25; Figure 1).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Ho et al. and Herrington and to have employed the pulling device (e.g. Figure 6 or Figure 1) of Herrington in the method of Ho et al. or the purpose of effectively pulling the extrudate away from the die and for further processing (Figure 6) or for the purpose of providing a helical shape to the extrudate (Figure 1; Figure 15).

Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being obvious over Ho et al. (US 5,658,644), as applied to claims 29 and 42 above, and further in view of Vetter (US 4,707,393).

As to claims 31 and 32, Ho et al. teach and suggest the method of claim 29 as set forth above. Ho et al. do not teach laminating the board with two additional layers. However, Vetter teaches a method of producing a hollow board wherein two additional layers are coextruded/laminated with heat and pressure to achieve a multi-layered article (Figure; col. 2, lines 18-67; col. 3, lines 67-col. 4, line 9).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Ho et al. and to have provided additional layers, as suggested by Vetter, for the purpose of providing a structure well suited for additional applications as is routinely practiced in the art.

Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being obvious over Ho et al. (US 5,658,644), as applied to claims 29 and 42 above, and further in view of Zertuche (US 4,655,987).

As to claims 39 and 40, Ho et al. teach the method set forth above, but do not specify the air pressure. However, analogously, Zertuche teaches that forming hollow portions with atmospheric pressure is known (claim 1).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Ho et al. and to have employed atmospheric air pressures, as suggested by Zertuche, since Zertuche analogously teaches that utilizing atmospheric pressure is suitable for forming hollow portions in extruded articles.

Claim 41 is rejected under 35 U.S.C. 103(a) as being obvious over Ho et al. (US 5,658,644), as applied to claims 29 and 42 above, and further in view of Wooley (US 3,778,495).

As to claim 41, Ho et al. teach the method set forth above, but do not specify the air pressure. However, analogously, Wooley teaches that forming hollow portions with 1-2 psig air (col. 7, lines 60-64)

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Ho et al. and to have employed atmospheric air pressures, as suggested by Wooley, since Wooley analogously teaches that low positive pressure (1-2 psig) is suitable for forming hollow portions in extruded articles.

Claim 39 and 40 are rejected under 35 U.S.C. 103(a) as being obvious over Wooley (US 3,778,495), as applied to claims 29, 30 and 41-44 above and further in view of Zertuche (US 4,655,987).

As to claims 39 and 40, Wooley teaches the method set forth above, but does not specify atmospheric air pressure. However, analogously, Zertuche teaches that forming hollow portions with atmospheric pressure is known (claim 1).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Wooley and to have employed atmospheric air pressures, as suggested by Zertuche, since Zertuche analogously teaches that utilizing atmospheric pressure is suitable for forming hollow portions in extruded articles.

Response to Arguments

Applicant's arguments filed October 7, 2011 have been fully considered. Applicant's amendment has overcome the previous 35 USC 112, first and second paragraph rejections of claims 29-32. Accordingly, the rejections have been withdrawn. Applicant's amendment has overcome the section 102 rejections based upon Zertuche (US 4,655,987) and Delves-Broughton (US 3,771,934). Applicant's arguments regarding the rejections based upon Ho and Wooley have been fully considered and to the extent they remain applicable in view of the amendment to the claims, they are not persuasive for the reasons set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFF WOLLSCHLAGER whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Wollschlager/
Primary Examiner
Art Unit 1742

November 22, 2011